

**Claims:**

1. A novel protein (polypeptide-k) extracted from *Momordica charantia* comprising amino acids including:

Amino acid	aaa936	Avg nmoles	$\mu$ grams	mole percent	# residues
Cysac cmcys					
Asx	3.6346	3.635	0.418	9.4%	15.0
Thr	1.1549	1.155	0.117	3.0%	4.8
Ser	2.0456	2.046	0.178	5.3%	8.5
Glx	6.6195	6.619	0.848	17.1%	27.4
pro+cys	(2.1133)	(2.113)	(0.205)	5.5%	(8.7)
Gly	3.4509	3.451	0.197	8.9%	14.3
Ala	2.8168	2.817	0.200	7.3%	11.6
Val	2.6160	2.616	0.259	6.8%	10.8
met	0.5625	0.563	0.074	1.5%	2.3
ileu	1.8404	1.840	0.208	4.8%	7.6
leu	3.1701	3.170	0.359	8.2%	13.1
tyr	1.0645	1.064	0.174	2.7%	4.4
phe	1.6115	1.612	0.237	4.2%	6.7
his	(1.2110)	(1.211)	(0.166)	3.1%	(5.0)
lys					
trp	(not determined)				
arg	3.5602	3.560	0.556	9.2%	14.7
5 % injected	100%			total residues:	160

Said polypeptide-k having the following properties:

- i. being water insoluble but partially soluble at pH 9.5 and completely soluble in 10% formic acid,
- 10 ii. being capable of sub-lingual administration,
- iii. having free N-terminal,
- iv. being stable,
- v. having shelf-life of 18 months,
- vi. and having combustion point of 234°C, and
- 15 vii. does not show cross reaction when tested bovine insulin

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2. A process for the extraction of a novel protein (polypeptide-k) from *Momordica charantia* comprising the steps of:
- grinding the dry seeds of *Momordica charantia*,
  - treating the pulverized seeds with a mixture of hexane and acetone in the ratio 3:1,
  - dissolving the residual mass in about 80% aqueous acetone,
  - adjusting the pH upto 9.5 by adding suitable organic buffer like ammonium hydroxide,
  - treating the supernatant layer with sulfuric acid after adjusting the pH to 3, and
  - collecting the flocculent precipitate of polypeptide-k and isolating the protein by selective crystallization.
3. A process as claimed in claim 2 wherein the protein is extracted from the dry seeds of *Momordica charantia*
4. A process as claimed in claim 2, wherein the seeds of *Momordica charantia* are split, washed thoroughly with water 2-3 times to render it substantially free from impurities and dried under vacuum, before extraction of the protein.
5. A method for the treatment of *diabetes mellitus*, comprising the steps of administering a composition containing ‘polypeptide k’ orally (in a sublingual manner) to a subject in need thereof, at least 10 minutes before every meal, 4 times a day.
6. Use of the protein extracted from *Momordica charantia* to manufacture a hypoglycemic composition useful in the treatment of diabetes mellitus.